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January 21, 2016

Ms. Christine Ritter, P.E.
Hydrogeologist
Division of Waste Management
NC Department of Environmental Quality
217 W. Jones Street
Raleigh, NC 27699

RE: Request to add Mulch Coloring Operations
Capital Materials & Recycling, LLC (Permit No. 35-05-TP-2014)
Franklinton, North Carolina

Dear Christine:

On behalf of Capital Materials & Recycling, LLC (Capital), Smith Gardner, Inc. (S+G) is providing this notice to supplement the mulching operations at the site by implementing a coloring system. Colored mulches continue to be appealing in the market place and Capital desires to provide a reliable source in the area. Therefore, in response to the Section's request in email dated October 26, 2015 we offer the following supplement the sites operations (**attached**).

Please feel free to contact us with comments or questions at (919) 828-0577 or by email below.

Sincerely,
SMITH GARDNER, INC.

DocuSigned by:
Stacey A. Smith
27B482DF1A09438...

NORTH CAROLINA PROFESSIONAL SEAL 023002 ENGINEER STACEY A. SMITH

Stacey A. Smith, P.E. 1/21/2016
Project Manager, ext. 127
stacey@smithgardnerinc.com

sas/sas
Att.
cc: Gary Lynch, Capital Materials and Recycling
Mary Whaley, NCDEQ
Sara Rice, NCDEQ
File

MULCH PROCESSING OPERATIONS

1.1 OVERVIEW

This section describes the woody debris processing operations for the Capital Materials and Recycling facility.

1.2 ACCEPTABLE WASTES

The recycling facility will only accept and process organic materials considered inert in nature. The materials acceptable for processing on the site include delivered (public) materials as follows:

- Land clearing waste such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative materials;
- Site clearing debris;
- High carbon nitrogen (C:N) yard waste such as brush, tree limbs, and similar vegetative matter with C:N ratios greater than 75;
- Untreated and unpainted wood wastes that have not been glued, treated with preservatives, painted, stained, or varnished; and
- Other wastes as approved by the Division of Waste Management.

The recycling facility will accept waste from the public. Only the materials listed above will be processed. All other identified wastes will be removed and disposed in accordance with **Section 1.3**.

1.3 WASTE ACCEPTANCE

All materials received for processing will be monitored upon entrance to the site at the guard house. The operating hours of the facility are anticipated to be from 7:00 a.m. to 6:00 p.m. Monday through Saturday. The site proposes to receive approximately 50,000 cubic yards of unprocessed debris annually.

1.4 WASTE SCREENING

In order to assure that prohibited wastes are not processed, waste screening programs will be implemented. During operations, a spotter will be used to monitor the incoming waste and identify any non-acceptable wastes. If any non-acceptable wastes are identified, these wastes will be placed into a stockpile or container and removed from the site for disposal at a solid waste facility permitted to accept the particular waste or alternatively not accepted and removed from the site by the hauler. All records and receipts for this disposal and/or rejection shall be kept in the operating record for the site. The individual spotters and operators will be trained on identifying non-conforming/non-acceptable wastes.

1.5 PROCESSING OPERATIONS

The recycling process involves a flow through of woody materials from the receipt of materials publicly. Generally, the process includes sorting of the material into small and large fraction materials for grinding and screening. The ultimate product would include mulch and soil materials. This section provides discussion on the major components of the process.

1.5.1 Operating Capacity

The Operating Capacity for the Capital Materials and Recycling facility Center is estimated to be approximately 10,000 cubic yards (raw) of material undergoing processing per quarter. Based on the anticipated equipment (listed below), the site will be capable of processing as much as 1,500 cubic yards per day (limited by the grinding operation) providing an acceptable factor of safety.

1.5.2 Equipment Requirements

The anticipated equipment requirements for operation and maintenance of the site are listed in **Table 1.1**.

Table 1.1 Equipment

Description	Primary Function (Allocation)
1) Excavator	LCID landfill mining and sorting
2) Front End Loader	loading and mixing
3) Grinder (Tub Grinder)	grinding/shredding of bulky wastes, stumps, limbs, etc.
4) Screening Equipment (Trommel)	processing material to uniform consistency and sorting of various gradations.
5) Dump Truck	hauling material around site.

1.5.3 Grinding/Chipping

Grinding and/or chipping will be conducted centrally on the site. The grinding/chipping operations will be conducted as needed to facilitate the recycling operations by using a tub grinder (Morbark 1300). The facility intends to utilize a single grinder to process the collected material. The material will be directed to the grinders as per the material size. It is anticipated that grinding and chipping will be conducted on a continual basis as materials are available. Grinders and chippers pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and or maintenance literature prior to operating equipment at the site.

1.5.4 Screening

Screening will be conducted just beyond the grinding area centrally on the site. A trammel screen will be used for this operation as needed. The facility intends to utilize a single screening machine (rented) to process the ground materials. Screening is conducted after the grinding/chipping has been completed to provide a uniform material for distribution to the public. The screening process removes remaining large materials for a uniform product. The material is screened to achieve particle sizes of 5/8" to 2". The material not passing the screen, "overs" (>2"), are stored in the material storage area and re-ground or chipped for additional screening. The finished

product is stored on site in a loading area until ready for delivery. Three (3) finished products are anticipated as follows:

- Mulch;
- Amended Mulch and Soil; and
- Soil/Topsoil.

The process is repeated for "overs" until a uniform blend is achieved. During the screening process additional non-conforming wastes may be identified. Once identified, these wastes will be removed and placed in the stockpiles or containers for disposal off-site. Screening machines pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and or maintenance literature prior to operating equipment at the site.

1.5.5 Mulch Coloring

As a supplement to the mulching operation, the site will process colored mulch for sale. The mulch coloring operation is an "add-on" function to the screening operation wherein a series of jets are placed over the process conveyor after the material is sorted. The jets provide a colored spray to coat the mulch. The color materials are non-toxic inert that arrive a concentrated liquid form. The concentrated liquid dye is mixed with water from the on-site well to create a diluted solution for application to the mulch. It is anticipated that no runoff occurs from the operation as all dye is taken up by the mulch. However, in the event that runoff is generated all stormwater is diverted to a sediment basin via natural drainage or through drainage channels. The site is subject to NPDES stormwater requirements wherein semi-annual monitoring is conducted to confirm runoff remains in compliance with the general stormwater permit.

1.5.6 Access and Roadways

The site has been designed to provide all-weather access to the processing area.

1.6 FINAL PRODUCT

Once the processing is completed to meet the specifications of this plan, on-site storage will be necessary until the product can be delivered. The area designated for the finished products will be accessible for both equipment involved in the storage as well as the equipment involved in loading the finished product off-site. The storage areas provide a buffer between processing operations and truck loading operations to maintain a safe controlled working environment.

Areas designated for storage will be protected against excessive runoff, soil loss or erosion by providing surface water diversions, silt fence, applying mulch products, or other best management practices (BMP's). The stockpiles shall not exceed heights beyond the limits of equipment available on-site or in such quantities as to provide a fire hazard due to decomposition (i.e. for the mulch product).

1.7 TROUBLESHOOTING

The final product must be maintained and monitored to prevent fire potential and to maintain an acceptable product. Typical problems and solutions have been provided in **Table 1.2.** This table may be updated from time to time to include additional information about the specific process at this site.

TABLE 1.2 TROUBLESHOOTING

Condition	Reason	Check	Remedy
PILE TEMPERATURE TOO HIGH (>150 ^{0}F)	INSUFFICIENT AERATION	IS PILE MOIST?	TURN PILE OR AERATE
	PILE IS TOO LARGE	HEIGHT > 15 FEET?	DECREASE PILE HEIGHT
EXTREMELY HIGH TEMPERATURE (>170 ^{0}F)	SPONTANEOUS COMBUSTION	LOW MOISTURE? BURNT SMELL?	DECREASE PILE SIZE, ADD WATER TO SMOLDERING SECTION, AND COMBINE WITH OTHER PILES
ODORS IN PILE	PILES ARE TOO LARGE	HEIGHT > 15 FEET OR WIDTH > 25 FEET ?	DECREASE PILE SIZE
NON-UNIFORM TEXTURE	POOR MIXING	ORIGINAL RAW MATERIALS DISCERNIBLE?	SCREEN PRODUCT & IMPROVE MIXING

1.8 MARKETS

The market for the proposed mulch and soil product will include the surrounding residential and commercial development in the area. The primary customers are assumed to be landscaping and grading companies through the remedial development period.